

KOREYSHA, Mikhail Mikhaylovich; SHUMSKIY, P.A., dokt. geogr.nauk, otv.red.;
PODOL'SKIY, A.D., red.; RYLINA, Yu.V., tekhn. red.

[Collection of articles of the Intergovernmental Committee
for the Execution of the International Geophysical Year]
Sbornik statei Mezhduverdomstvennogo komiteta po provedeniiu
Mezhdunarodnogo geofizicheskogo goda. Moskva, Izd-vo AN SSSR.
No.11[Modern glaciation of the Suntar-Khayata Range] Sovremen-
noe oledenenie khrebtu Suntar-Khaiata. 1963. 153 p.

(MIRA 17:2)

1. Akademiya nauk SSSR. Mezhduverdomstvennyy komitet po prove-
deniyu Mezhdunarodnogo geofizicheskogo goda. IX razdel prog-
rammy MGG. Glatsiologiya.

PCHELINTSEV, Aleksandr Mikhaylovich; SHUMSKIY, P.A., prof.,
otv. red.

[Structure and physicommechanical properties of frozen
ground] Stroenie i fiziko-mekhanicheskie svoistva merz-
lykh gruntov. Moskva, Izd-vo "Nauka," 1964. 259 p.
(MIRA 17:6)

KOREY SHA, M.M.; SAFOZHNIKOV, R.M.; SHUMSKIY, P.A., doktor
geogr. nauk, otv. red.; GRAVE, N.A., doktor geogr. nauk,
otv. red.; FEDOROVA, G.H., red.; BRILING, N.V., red.

[Suntar-Khayata] Suntar-Khaiata. Moskva, 1963. 2 v.
(MIRA 18:5)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Institut
merzlotovedeniya.

BUGAYEV, V.A., prof., otv. red.; SHUMSKIY, P.A., prof., red.;
GUSEV, A.M., prof., red.; LAPINA, I.Ya., red.

[Antarctics; reports of the Commission, 1963] Antarktika;
doklady komissii, 1963. Moskva, Nauka, 1964. 174 p.
(MIRA 17:11)

1. Akademiya nauk SSSR. Mezhdovedomstvennaya komissiya po
izucheniyu Antarktiki.

SHUMSKII, P.A.; KRENKI, A.N.

Present-day glaciation of the earth and its changes. Geofiz. Misl.
(MIRA 18:4)
no.14:128-158 '64.

SECRET, P.A

Changes in the mass of the ice cover in central Greenland.
Dokl. AN SSSR 162 no.2:320-322 By '80. (MIRA 14:1)

1. Submitted July 15, 1964.

BUGAYEV, V.A., prof., civ. red.; SHUMSKIY, I.A., prof., red.,
GUSEV, A.M., prof., red.; LAFINA, I.Ya., red.

[The Antarctic; reports of the Commission, 1964] Antarktika;
doklady komissii, 1964. Moskva, Nauka, 1965. (MIRA 18:11)

SHUMSKIY, P.A., doktor geograf. nauk; BAUER, A., prof.

Study of recent changes in the central part of the ice sheet
of East Antarctica in 1964. Inform. biul. Sov. antark. eksp.
no.51:37-51 '65. (MIRA 18:9)

1. Akademiya nauk SSSR (for Shumskiy). 2. Frantsuzskaya
polyarnaya ekspeditsiya (for Bauer).

ACC NR: A111111111

SOURCE CODE: UR/3174/65/000/051/0037/0051

AUTHOR: Shumskiy, P. A. (Doctor of geographical sciences); Bauer, A. (Professor)

ORG: [Shumskiy] Academy of Sciences SSSR (Akademiya nauk); [Bauer] French Polar Expedition (Frantsuzskaya poljarnaya ekspeditsiya)

TITLE: Investigation of contemporary changes in the central ice cover of Eastern Antarctica

SOURCE: Sovetskaya antarkticheskaya ekspeditsiya, 1955-. Informatsionnyy byulleten', no. 51, 1965, 37-51

TOPIC TAGS: antarctic climate, glaciology, ice, antarctic ice cap, ice cap mass balance, ice cover surveying, radarrange finding, ice sampling

ABSTRACT: The problem of mass balance of the Antarctica ice cover is investigated by concentrating on the mass changes of the central part ice cap. Problem difficulties are due to absence of direct information, such as is available for the outer fringe zone, where the 20th century warming trend has caused observable ice retreats. The authors offer a method based upon three hydrodynamic equations of the ice flow, representing continuity and the two boundary conditions of mass transfer thru the upper and lower surfaces of the superglacier. A single integral equation is then derived, relating the velocities of the external and internal mass exchange with the velocity of mass change at a given point. It is noted that in the environment of Central Antarctica most of the equation's members can be neglected. The remaining essential quanti-

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ACC NR: AT6019038

ties: a - mass arrival velocity per unit of upper surface projection on the horizontal plane; $\rho(z, t)$ - ice density as function of depth and time; $du(z)/dx - dv(z)/dy$ (with $u(z)$ and $v(z)$ - ice velocities along the X and Y axes at depth z); and their time derivatives, can be measured at the surface and extrapolated to depth on the basis of shallow borings. On the basis of the analysis and measurements made previously, a work plan has been formulated. Its main features were: precise radar range surveying of permanent 8 meter high markers defining pentagon nets at suitable stations; astro-orientation; 8" dia. firn samplings at low depths; and electric soundings for ice density. The expedition was conducted with the participation of a group of French scientists, including one of the present authors (Prof. A. Bauer). A description of the expedition's organization, a diary of operations and tables of some measurements related to the survey marker nets are given. The precision of distance measurement by special radar equipment was found to be good, with errors less than one part in a million. Measurement operations were found to be unimpeded by low blizzards, except for a single 12 hour interruption of radar signal passage. The results obtained and the established marker system should permit a satisfactory repetition of measurements in two years, as planned. The electrometric ice density determination method was found to be unsuitable in its present form. Orig. art. has 1 figure, 7 formulas and 5 tables.

SUB CODE: 04, 17/

SUBM DATE: 07Jul64/

ORIG REF: None

Card 2/2

USSR/Farm Animals - Large Horned Cattle.

Q-2

Abs Jour : Ref Zhur - Biol., No 18, 1958, 83370

Author : Sil'yander, A.A., Shumskiy, P.I.

Inst : Grodno Institute of Agriculture.

Title : Summer Keeping of Cows under Conditions of Grodno Oblast'.

Orig Pub : Tr. Grodnensk. s.-kh. in-ta, 1957, vyp. 3, 209-212

Abstract : On farms with natural pastures with low productivity cows should be kept in stall-camping conditions for the summer while being permitted to grass outside camping grounds for exercise. It is recommended that on farms where improved highly productive pastures have been created, cows should be changed to pasture-camp keeping.

Card 1/1

SHUMSKIY, P.I., otv. red.; GAYKO, A.A., red.; VOYTKO, D.I., red.;
KARELIN, V.N., red.; NAGORSKAYA, Ye.D., red.; SOLNTSEV,
K.M., red.; SIDORENKO, G.M., red.; DOMASHEVICH, O., red.

[Increasing the production and improving the quality of
meat; transactions of the White Russian Research Institute
of Animal Husbandry] Uvelichenie proizvodstva i uluchshenie
kachestva miasa; trudy Belorusskogo nauchno-issledovatel'-
skogo instituta zhivotnovodstva. Minsk, Izd-vo "Urozhai,"
1964. 155 p. (MIRA 17:7)

1. Minsk. Instytut zhyvelahadouli.

SHUMSKIY, V. A., CAND TECH SCI, "ON THE PROBLEM OF IMPROVING THE QUALITY OF ^{crystallization} ~~ENAMELING~~ ^{the} BY FILLING ^{of} ~~IN~~ STRIPS AND INCREASING ITS PRODUCTIVITY." [NOVOCHERKASSK], 1960. (MIN OF AGR RSFSR, SOUTHERN SCI RES INST OF HYDRAULIC ENGINEERING AND MELIORATION, STAVROPOL'SKIY KRAY EXPERIMENTAL MELIORATION STATION). (KL, 3-61, 222).

L 36862-66 EWP(k)/EWT(m)/T-2/EWP(w)/EWP(v)/EWP(t)/ETI IJF(c) EM/JD/HM/HW

ACC NR: AP6023438

SOURCE CODE: UR/0135/66/000/007/0017/0019

AUTHOR: Lazarev, B. I. (Candidate of technical sciences); Iodkovskiy, S. A. (Candidate of technical sciences); Rusinova, I. N. (Engineer); Shumskiy, V. G. (Engineer)

ORG: TsNIITMASH

TITLE: TsT-23 electrodes for welding heat-resistant Kh16N14V2BR-type steels

SOURCE: Svarochnoye proizvodstvo, no. 7, 1966, 17-19

TOPIC TAGS: WELD EVALUATION, heat resistant steel, austenitic steel, steel welding, arc welding, manual welding, welding electrode, electrode steel, steel melting, steel composition / TsT-23 WELDING ELECTRODE

ABSTRACT: Research conducted during 1960-1963 led to the development of TsT-23 welding electrode yielding fully austenitic weld metal and intended for welding EP17 heat-resistant tube steel. The weld metal is similar in composition to EP17 steel, but has a higher manganese content (4.5—6.0% compared to 2.0% in EP17) and contains no boron in order to reduce the susceptibility to hot cracking, characteristic of fully austenitic welds. Since, however, the weld susceptibility to hot cracking was found to vary significantly from one heat of electrode

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UDC: 621.791.042.4:669.14.018.44

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ACC NR: AP6023438

wire to another, a special investigation was undertaken to determine the effect of conditions of wire steel melting on the weld susceptibility to hot cracking. Ferroniobium used for alloying with niobium was found to be one of the main factors in intensifying hot cracking. Deoxidation with more than 0.3% silicon, 0.1% aluminum, or 0.3% calcium-silicon and the use of acid furnace lining also contributed to the increased susceptibility to hot cracking. Niobium should be introduced as nickel-niobium master alloy, melting should be done in basic furnaces, the silicon content should be kept below 0.50%, and the phosphorus content below 0.025%. Electrodes with wire made of steel melted from a virgin charge with the above precautions yielded weld metal which had a low susceptibility to hot cracking. The electrodes were successfully used in welding EI695, EP17, and EP184 steel pipelines. Orig. art. has: 4 figures and 2 tables. [DV]

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 006/ ATD PRESS: 5048

Card 2/2

ROBSON, M.A.; [unclear], [unclear], [unclear], [unclear].

[Gas-turbine engines for automobiles] Avtomobilnye
gazoturbinnye dvigateli. Moscow, Mashinostroyeniye, 1967.
360 p. (M.A. 18:1)

SOV/113-58-11-4/16

AUTHORS: Shumskiy, Ye.G., Spunde, Ya.A., Candidate of Technical Sciences

TITLE: Automobile Gas Turbine Engines (Avtomobil'nyye gazoturbin-nyye dvigateli)

PERIODICAL: Avtomobil'naya promyshlennost', 1958, Nr 11, pp 10-17, (USSR)

ABSTRACT: The authors discuss the principles, advantages, technical difficulties, economical factors, and prospects for the introduction of Soviet automobile gas turbine engines. Soviet automobile designs involving gas turbine engines are based on the double-shaft gas turbine engine with heat exchanger. The working principle of this type is briefly explained. Then the operation of axial and radial gas turbines used in low duty engines in industry is described (fig. 1), and projects of utilization of radial gas turbines in automobile engines are mentioned. The bulk of the article is concerned with a description and evaluation of American, English, French, Italian, and Spanish automobile gas turbine engines. The authors conclude that no decisive improvement of the present piston engines can be expected and the future belongs to gas turbine engines. But for a com-

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Automobile Gas Turbine Engines

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paratively long period, such gas turbine engines will be more expensive than piston engines, and the fuel economy will be slight. Thus a general changeover to automobile gas turbine engines, especially in light cars, would not be justified. Since the limits set by the piston engines to a further technical development of heavy cargo trucks and tractors with engines of 300 to 400 HP and more are already felt, the installation of proper gas turbine engines in these cases might yield a substantial technical and economical effect. Gas turbine engines also hold prospects for certain types of trucks used in the northern districts of the USSR. Probably within the next 5 to 6 years gas turbine engine designs will come out that are suitable for more commonly used types of trucks. It is pointed out that an essential part of the initial investment expenses in the change-over to automobile gas turbine engines can be reduced, if all relevant developmental work is closely connected with that of low duty industrial gas turbine engine, which is needed in

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Automobile Gas Turbine Engines

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many sectors of the national economy. There are 7 diagrams, 5 photos, 1 graph, and 1 table.

ASSOCIATION: Moskovskiy avtomekhanicheskiy institut (The Moscow Institute of Automotive Mechanics)

1. Automobile industry--USSR 2. Passenger vehicles 3. Gas turbines--Operation 4. Heat exchangers--Performance

Card 3/3

SHUMSKIY, Yefim Grigor'yevich, prof.; BOGDASAROV, Boris Aleksandrovich, kand. tekhn. nauk. Primal uchastiye ARSEN'YEV, Yu.D., kand. tekhn. nauk; KALABIN, V.P., doktor tekhn. nauk, prof., retsen-zent; BYSTRITSKAYA, V.V., inzh., red.; CHERNOVA, Z.I., tekhn. red.; EL'KIND, V.D., tekhn. red.

[General heat engineering] Obshchaia teplo tekhnika. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1961. 459 p.
(MIRA 15:2)

1. Voennoy Ordena Lenina Akademiya bronzetankovykh voysk (for Kalabin).

(Heat engineering) (Power (Mechanics))

NIKITIN, N.T.; ZOLOTNITSKAYA, A.S.; SHUMTSOVA, L.T.; AKATOV, B.N.;
KUVSHINSKIY, V.V., kandidat tekhnicheskikh nauk, redaktor; DUGINA,
N.A., tekhnicheskiy redaktor

[Rapid-action machine-tool accessories] Bystrodeistvuiushchie
stanochnye prispособleniia. Moskva, Gos. nauchno-tekhn. izd-vo
mashinostroit. lit-ry, 1954. 18 p. (MLRA 8:7)
(Machine tools)

BELYUNOVA, V., inzh.; LITVINA, L., inzh.; SHUMUEL'SON, L., inzh.

Testing of a gas autoclave. Obshchestv.pit. no.5:32-36 My
'62. (MIRA 15:5)

(Autoclaves--Testing)
(Restaurants, lunchrooms, etc.--Equipment and supplies)

BERLIN, A.A.; UZINA, R.V.; SHUMURAK, I.L.

Some factors affecting the adhesion of rubbers to cord impregnated with latex-protein compositions. Vysokom.soed. 2 no.6:832-837
Je '60. (MIRA 13:6)

1. Moskovskiy tekhnologicheskii institut myasnoy i molochnoy pr-
myshlennosti i Nauchno-issledovatel'skiy institut shinnoy promysh-
lennosti.

(Adhesion)

(Latex)

(Proteins)

... 11:60-65 N '56.
ZAKHARYAN, A., polkovnik; SHUMYACHER, G., mayor.

Some methods and rules in firing from trucks. Voen.vest.
36 no.11:60-65 N '56. (MLRA 10:2)

(Shooting, Military)

SHUMYACHER, L.L., kand.tekhn.nauk, dotsent

selecting optimum weights for dropping parts of free-
forging hammers. Trudy DIIT no.26:444-450 '58.
(Forging machinery) (Hammers)

(MIRA 11:7)

SHUMYANSKAYA, N.I., tekhnik (Odessa); GOCHEV, V.S., master tsekha
(Odessa); MOLCHADSKIY, M.T., inzh..(Odessa)

Hydraulic packing of cellulose in cartridge filters. Energetik
13 no.11:14-15 N '65. (MIRA 18:11)

VORONKOV, A.A.; SHUMYATSKAYA, N.G.; PYATENKO, Yu.A.

Crystalline structure of gagarinite. Zhur.strukt.khim. 3
no.6:691-698 '62. (MIRA 15:12)

1. Institut mineralogii, geokhimii i kristallokhimii redkikh
elementov.

(Minerals)

(X-ray crystallography)

AGALINA, M.S., inzh.; AKUTIN, T.K., inzh.; APRESOV, A.M., inzh.; ARISTOV, S.S., kand. tekhn. nauk.; BELOSTOTSKIY, O.B., inzh.; BERLIN, A.Ye., inzh.; BESSKIY, K.A., inzh.; BLYUM, A.M., inzh.; BRAUN, I.V., inzh.; BRODSKIY, I.A., inzh.; BURAKAS, A.I., inzh.; VAYNMAN, I.Z., inzh.; VARSHAVSKIY, I.N., inzh.; VASIL'YEVA, A.A., inzh.; VORONIN, S.A., inzh.; VOYTSEKHOVSKIY, L.K., inzh.; VRUBLEVSKIY, A.A., inzh.; GERSHMAN, S.G., inzh.; GOLUBYATNIKOV, G.A., inzh.; GORLIN, M.Yu., inzh.; GRAMMATIKOV, A.N., inzh.; DASHEVSKIY, A.P., inzh.; DIDKOVSKIY, I.L., inzh.; DOBROVOL'SKIY, N.L., inzh.; DROZDOV, P.F., kand. tekhn. nauk.; KOZLOVSKIY, A.A., inzh.; KIRILENKO, V.G., inzh.; KOPELYANSKIY, G.D., kand. tekhn. nauk.; KORETSKIY, M.M., inzh.; KUKHARCHUK, I.N., inzh.; KUCHER, M.G., inzh.; MERZLYAK, M.V., inzh.; MIRONOV, V.V., inzh.; NOVITSKIY, G.V., inzh.; PADUN, N.M., inzh.; PANKRAT'YEV, N.B., inzh.; PARKHOMENKO, V.I., kand. biol. nauk.; PINSKIY, Ye.A., inzh.; PODLUBNYI, S.A., inzh.; PORAZHENKO, F.F., inzh.; PUZANOV, I.G., inzh.; REDIN, I.P., inzh.; REZNIK, I.S., kand. tekhn. nauk.; ROGOVSKIY, L.V., inzh.; RUDERMAN, A.G., inzh.; RYBAL'SKIY, V.I., inzh.; SADOVNIKOV, I.S., inzh.; SEVER'YANOV, N.N., kand. tekhn. nauk.; SEMESHKO, A.T., inzh.; SIMKIN, A.Kh., inzh.; SURDUTOVICH, I.N., inzh.; TROFIMOV, V.I., inzh.; FEFER, M.M., inzh.; FIALKOVSKIY, A.M., inzh.; FRISHMAN, M.S., inzh.; CHERESHNEV, V.A., inzh.; SHESTOV, B.S., inzh.; SHIFMAN, M.I., inzh.; SHUMYATSKIY, A.F., inzh.; SHCHERBAKOV, V.I., inzh.; STANCHENKO, I.K., otv. red.; LISHIN, G.L., inzh., red.; KRAVTSOV, Ye.P., inzh., red.; GRIGOR'YEV, G.V., red.; KAMINSKIY, D.N., red.; KRASOVSKIY, I.P., red.; LEYTMAN, L.Z., red. [deceased]; GUREVICH, M.S., inzh., red.; DANILEVSKIY, A.S., inzh., red.; DEMIN, A.M., inzh., red.; KAGANOV, S.I., inzh., red.; KAUFMAN, B.N., kand. tekhn. nauk., red.; LISTOPADOV, N.P., inzh., red.; MENDELEVICH, I.R., inzh., red. [deceased];
(continued on next card)

AGALINA, M.S.... (continued) Card 2.

PENTKOVSKIY, N.I., inzh., red.; ROZENBERG, B.M., inzh., red.; SLAVIN, D.S., inzh., red.; FEDOROV, M.P., inzh., red.; TSYMBAL, A.V., inzh., red.; SMIRNOV, L.V., red. izd-va.; PROZOROVSKAYA, V.L., tekhn. red.

[Mining ; an encyclopedic handbook] Gornoe delo; entsiklopedicheski spravochnik. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po ugol'noi promyshl. Vol. 3. [Organization of planning; Construction of surface buildings and structures] Organizatsiia proektirovaniia; Stroitel'stvo zdani i sooruzhenii na poverkhnosti shakht. 1958. 497 p. (MIRA 11:12)

(Mining engineering)

(Building)

SHUMYATSKIY, M. B., Eng.

"Selection of an Efficient Layout for Automatization of the Pressing Devices in Rolling Mills." Thesis for degree of Cand. Technical Sci. Sub 21 Oct 49, Moscow Order of Lenin Power Engineering Institute V. I. Molotov.

Summary 82, 18 Dec 52, Dissertations Presented For Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

SHUMYATSKIY, K. B.

"Selection of a Rational System for Automatizing the Pressure Apparatus of Rolling Mills." Cand Tech Sci, Donets Order of Labor Red Banner Industrial Institute N. S. Khrushchev, Min Higher Education USSR, Stalino, 1954. (KL, No 17, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

SHUMYATSKIY, V., inzhener-mayor, dotsent, kandidat tekhnicheskikh nauk,
laureat Stalinskoy premii; KIKIN, D., inzhener-mayor, kandidat
tekhnicheskikh nauk.

On wave resistance in supersonic flight. Vest.Vozd.Fl. 34 no.12:
62-73 D '51. (MLRA 8:3)
(Aerodynamics, Supersonic)

GLADKOV, B.A.; ETIN, A.O.; SHUMYATSKIY, B.L.

Determining the parameters of lathes. Stan. i instr. 35
no.3:27-33 Mr'64. (MIRA 17:5)

ETIN, A.O.; SHUMYATSKIY, B.L.

Analysis of the use of lathes with numerical program control. Stan.
i in tr. 36 no.4:3-8 Ap '65. (MIRA 18:5)

SHUMYATSKIY B. Ya. Prof.

M: Aerodinamika Bol'shikh Skorostey
(Aerodynamics of Great Velocities)
Moscow 1950 (Editor)

Soviet Source:

Abstracted in USAF "Treasure Island", on file in
Library of Congress, Air Information Division,
Report No. 073727

CHUMIATSKII, N. Ya.

"Aerodynamical Wind Tunnels for High Speeds," Aerodynamics of High Speeds, 1951.

SHUMYATSKIY, I.S.

ARZHANIKOV, Nikolay Sergeyevich; MAL'TSEV, Vladimir Nikolayevich; BURAGO, G.F., doktor tekhnicheskikh nauk, professor, retsenzent; VOTYAKOV, V.D., kandidat tekhnicheskikh nauk, dotsent, retsenzent; SHUMYATSKIY, B.Ya., kandidat tekhnicheskikh nauk, retsenzent; KOTLYAR, Ya.M., kandidat tekhnicheskikh nauk, redaktor; PETROVA, I.A., izdatel'skiy redaktor; GLADKIKH, N.N., tekhnicheskikh redaktor

[Aerodynamics] Aerodinamika. Izd. 2-oe. Moskva, Gos. izd-vo obor. promyshl., 1956. 483 p. (MIRA 9:11)
(Aerodynamics)

~~SHUMYATSKIY, B. V.~~ kandidat tekhnicheskikh nauk; SHPIL'RAYE, E. E.,
kandidat tekhnicheskikh nauk.

Some problems on the thermodynamics of a liquid flow. Teplo-
energetika 4 no.9:95-96 S '57. (MLRA 10:8)
(Fluid dynamics) (Thermodynamics)

KRASNOV, Nikolay Fedorovich; ARZHANIKOV, N.S., prof., retsenzent; SHUMYATSKIY, B.Ya., kand. tekhn. nauk, retsenzent; KUZNETSOV, S.I., kand. tekhn. nauk, retsenzent; KRASIL'NIKOV, S.D., inzh., red.; TUBYANSKAYA, F.G., izd-va red.; PUKHLIKOVA, N.A., tekhn. red.

[Aerodynamics of rotating bodies] Aerodinamika tel vrashcheniya.
Moskva, Gos. izd-vo obor. promyshl., 1958. 560 p. (MIRA 11:10)
(Aerodynamics)

SHUMYATSKIY, B. YA.

PHASE I BOOK EXPLOITATION SOV/5855

Kibardin, Yu. A., S. I. Kuznetsov, A. N. Lyubimov, and B. Ya Shumyatskiy

Atlas gazodinamicheskikh funktsiy pri bol'shikh skorostyakh i vysokikh temperaturakh vozdušnogo potoka (Atlas of Gas Dynamic Functions for High Air-Flow Speed and High Temperature) Moscow, Gosenergoizdat, 1961. 327 p. Errata slip inserted. 6000 copies printed.

Ed. (Title page): A. S. Predvoditelev, Corresponding Member, Academy of Sciences USSR; Ed.: A. S. Meleyev; Tech. Ed.: N. I. Borunov.

PURPOSE : This atlas is intended for design bureaus and scientific research organizations concerned with the design of gas turbines and rocket engines and also with problems associated with combustion processes and the utilization of atomic energy. It may also be useful to students in beginning and advanced courses in schools of higher technical

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Atlas of Gas Dynamic (Cont.)

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education.

COVERAGE: The manual presents necessary material for the solution of basic gasdynamic problems for airflow while taking into consideration variable specific heat, dissociation, and partial ionization. This material encompasses a pressure range from 10^{-6} to 10^3 kg/cm² for temperatures up to 20,000°K. In addition, the book presents in detail the gasdynamic functions of an ideal gas ($\kappa = 1.4$) which facilitate the determination of flow parameters for isentropic flow, shock waves, and flow around circular cones. Part I contains diagrams of the state and kinetic coefficients of the dissociating air. Part II presents graphs and diagrams which contain the calculation results of isentropic flows and shock waves while taking into account the variable specific heat of the air. Part III gives the gasdynamic functions of an ideal gas ($\kappa = 1.4$) in the presence of oblique shock waves and for axial flow around circular cones which permit the determination of flow parameters at the cone surface as well as the velocity-, pressure-, and

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Atlas of Gas Dynamic (Cont.)

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mass-flow fields for axial flow around circular cones with vertex half angles of $5 - 50^\circ$. Determinations of parameter values with an accuracy sufficient for the solution of most practical problems may be made with the aid of included diagrams. The appendixes present detailed tables of gasdynamic functions for an ideal gas at $\kappa = 1.4$ and M numbers from 0 to 100, and also tables of approximating polynomials of conical flows which aid in determining velocity fields and individual mass flows with an accuracy up to the fifth decimal. The latter tables may be used for investigating more general problems of gasdynamics with the aid of electronic digital computers. The authors thank Professor G. F. Burago, Doctor of Technical Sciences, M. Ye. Kozhenkova, S. S. Nalbandyan, K. M. Samoshkina, and L. N. Turkina. There are 11 references: 8 Soviet (including 1 translation) and 3 English.

TABLE OF CONTENTS:

Preface

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DEYCH, Mikhail Yefimovich; SHUMYATSKIY, B.Ya., red.; FRIDKIN, A.M.,
tekh. red.

[Gas dynamics in engineering] Tekhnicheskaya gazodinamika. Izd.2.,
perer. Moskva, Gos. energ.izd-vo, 1961. 670 p. (MIRA 15:2)
(Gas dynamics)

S/170/62/005/010/002/009
B112/B186

AUTHORS: Chekhovskoy, V. Ya., Shumyatskiy, B. Ya., Yakimovich, K. A.

TITLE: Experimental investigation of tungsten enthalpy over the temperature range from 350 to 2000°C

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 10, 1962, 13 - 18

TEXT: The enthalpy difference $i_t - i_0$ was experimentally determined by the mixing method (16 experiments). It has been found to vary linearly from 11.68 to 73.41 kcal/kg over the temperature range from 357.3 to 1964.0°C. The maximum error in these results was estimated at $\pm(0.6 - 0.9)\%$. The data obtained do not diverge from those of other authors by more than 1% on the average. The experimental equipment consisted of a resistance furnace with a tungsten heater and a massive copper calorimeter in an isothermal jacket. The temperature of the sample was measured by platinorhodium-platinum thermocouples ($t < 1200^\circ\text{C}$) and an optical pyrometer ($t > 1000^\circ\text{C}$). There are 4 figures and 1 table.

Card 1/2

Experimental investigation of ...

S/170/62/005/010/002/009
B112/B186

ASSOCIATION: Institut vysokikh temperatur pri MEI, g. Moskva (Institute
of High Temperatures of MEI, Moscow)

SUBMITTED: November 29, 1961

Card 2/2

L 10017-63 EPF(n)-2/EPR/EWG(k)/BDS/T-2/ES(v)/ES(w)-2--AEDC/AFTC/AFWL/ASD/
ESD-3/SSD--Pu-4/Pa-4/Pz-4/Ps-4/Pab-4/Pl-4--IJP(C)/AT/WW

ACCESSION NR: AP3003450

S/0179/63/000/003/0003/0008

AUTHOR: Gubarev, A. V. (Moscow); Kovbasyuk, V. I. (Moscow); Medin, S. A. (Moscow); Sheydlin, A. Ye. (Moscow); Shumyatskiy, B. Ya. (Moscow) 96

TITLE: Constant-velocity flow of electroconductive gas in the channel of
a magnetohydrodynamic generator 25

SOURCE: AN SSSR. Izv. Otdel. tekhn. nauk. Mekhanika i mashinostroyeniye,
no. 3, 1963, 3-8

TOPIC TAGS: magnetohydrodynamic generator, electroconductive gas, moving
plasma

ABSTRACT: An analytical investigation is made under the following assumptions:
1) the gas is ideal, nonviscous, and nonheat conductive; 2) the channel flow is
quasi-unidimensional; 3) the gas is electrically neutral; 4) the magnitude of
the secondary magnetic field is negligible in comparison with that of the external
field; 5) the gas conductivity is constant and isotropic; and 6) the electrode
potential difference is constant. Equations determining the motion of an

Card 1/2

I 10017-63

ACCESSION NR: AP3003450

electroconductive gas in an MGD generator were established in accordance with Neyringer's investigation of 1961 (Neyringer. Optimal'naya generatsiya moshchnosti dvizhushcheyasya plazmoy. Sb. perevodov "Dvizhushchayasya plasma," IL, 1961) and expressed in pertinent parameters. Because the solution of these equations requires an additional condition, it was assumed that the flow of gas takes place either with constant electric efficiency or constant magnetic gap. It was found that constant-magnetic-gap generators at pressure $p = 0$ generate their net power in proportion to the magnitude of local electric efficiency at the channel entrance. Constant-electric-efficiency generators require relatively high local electric efficiencies along the total channel length to insure high internal generator efficiencies. In high-power installations, channels with increasing magnetic gap are found to be preferable. Orig. art. has: 9 figures and 13 formulas.

ASSOCIATION: none

SUBMITTED: 03Jun62

DATE ACQ: 24Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 003

OTHER: 001

ghm/df
Card 2/2

GUBAREV, A. V.; SHUMYATSKIY, B. Ya.; BREYEV, V. V.

"On the Problem of Optimisation of MHD Generators."

report submitted for Intl Symp on Magnetohydrodynamics Electrical Power Generation, Paris, 6-11 Jul 64.

Inst of High Temperatures, Moscow.

L 61522-65 EWT(1)/EWP(m)/EWT(m)/EWG(v)/T/EWP(t)/FCS(k)/EWA(c)/EWA(1) Pd-1/
Pa-5/PI-4 IJP(c) JD

ACCESSION NR: AP5016702

UR/0294/65/003/003/0467/0472
533.6.07

AUTHOR: Shumyatskiy, B. Ya.; Kibardin, Yu. A.; Saltanov, G. A.

TITLE: Supersonic wind tunnel with a dissociating working body

SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 3, 1965, 467-472

TOPIC TAGS: dissociation, dissociating gas, wind tunnel, supersonic wind tunnel, dissociating iodine, diatomic gas dissociation

ABSTRACT: The possibility of using iodine as the working gas in a shock tube for investigating the dissociation of diatomic gases and its effects in large supersonic air flows past bodies is discussed. The advantages and inconveniences of iodine with respect to its use as the working gas in a shock tube are enumerated. Diagrams of the state of the gas, with dissociation taken into account, calculated for temperatures ranging up to 1500C and pressures from 10^{-4} to 10 atm are given. The data obtained here made it possible to estimate the gas dynamic parameters and power requirements for two different experimental setups designed for investigating high-velocity dissociating diatomic gas flows. The first version consisted of a closed-cycle supersonic wind tunnel with means for heating iodine to 600-1000C, with the cycle closing in the liquid phase (see Fig. 1 of the Enclosure). The second version, which

U. 0522-05

ACCESSION NR: AP5016702

employed the same wind tunnel and apparatus except the heat exchanger, is an open-cycle wind tunnel. The respective advantages and disadvantages of the two versions are outlined and evaluated. The authors stress the general character of the proposed schemes for experimental investigations and their value as a starting point for future projects. Orig. art. has: 5 figures. [AB]

ASSOCIATION: Nauchno-issledovatel'skiy institut vysokikh temperatur
(Scientific Research Institute of High Temperatures)

SUBMITTED: 13Aug64

ENCL: 01

SUB CODE: ME

NO REF SOV: 007

OTHER: 002

ATD PRESS: 4037

Card 2/3

L 61522-65

ACCESSION NR: AP5016702

ENCLOSURE: 01

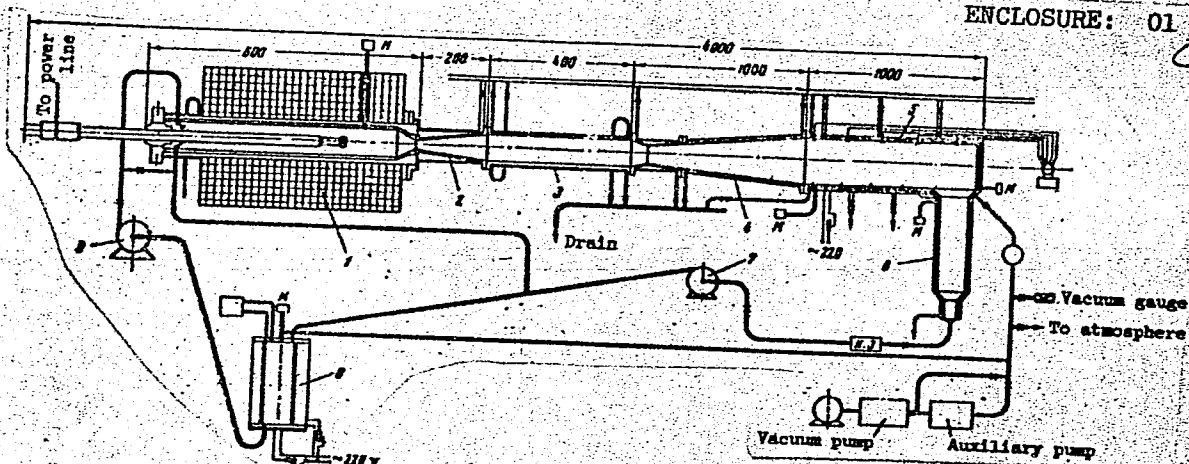


Fig. 1. Schematic diagram of wind tunnel

- 1 - Heater; 2 - nozzle; 3 - test section; 4 - diffuser;
- 5 - tubular heat exchanger; 6 - condenser; 7 - pump;
- 8 - electric arc heater.

Card 3/3

L 29198-66 FBD/EWT(1)/EEC(k)-2/TWEP(k) IJP(c) WG

ACC NR: AP6008289

SOURCE CODE: UR/0109/66/011/003/0519/0525

AUTHOR: Strakhovskiy, G. M.; Tatarenkov, V. M.; Shumyatskiy, P. S. 43 B

ORG: none

TITLE: Effect of external constant electric and magnetic fields applied to an outside-the-resonator active-molecule beam upon the maser frequency 25

SOURCE: Radiotekhnika i elektronika, v. 11, no. 3, 1966, 519-525

TOPIC TAGS: maser, gaseous state maser

ABSTRACT: This is a further development of an authors' earlier work on the same subject (ZhETF, 1963, v. 45, no. 6(12), 1768). This article reports in detail an investigation of the effect of external nonuniform electric and magnetic fields upon the maser frequency at $J = 3, K = 3$ and $J = 3, K = 2$ lines of $N^{14}H_3$. In an experimental maser (see figure), a beam of active molecules from source 1

Card 1/2

UDC: 621.317.766.1.001.5

Card 2/2

KEL'TSEV, N.V.; TOROCHESNIKOV, N.S.; SHUMYATSKIY, Yu.I.

Using synthetic zeolites for separating lower olefinic hydrocarbons
from lightly concentrated gases. Gaz. delo no.9:25-28 '65. (MIRA 18:9)

1. Moskovskiy ordena Lenina khimiko-tekhnologicheskoy institut im.
D.I. Mendeleyeva.

L 30086-66 EWT(1) SCTB DD

ACC NR: AP6019197

SOURCE CODE: UR/0238/66/012/003/0334/0338

AUTHOR: Shumyts'ka, N. M. — Shumitskaya, N. M.

ORG: Laboratory of Comparative Physiology, Institute of Physiology im. A. A. Bogomolets, AN URSR, Kiev (Laboratoriya porivnyal'noyi fiziologiyi Institutu fiziologiyi Akademiyi nauk URSR)

TITLE: Comparative physiological study of oxidative processes in animal tissues after prolonged acclimatization to high mountain altitudes

SOURCE: Fiziologichnyy zhurnal, v. 12, no. 3, 1966, 334-338

TOPIC TAGS: hypoxia, respiration, animal physiology, ~~biologic~~ biologic metabolism, hematopoiesis

ABSTRACT: Studies of hematopoiesis and tissue respiration were conducted on rats and ground squirrels acclimatized to 3000 m for 13 days. Experimental animals were kept in a high mountain climate (El'brus) and control animals were acclimatized to pressure chamber conditions (14.5% O₂, 3000 m). It was found that prolonged acclimatization to the high mountain climate resulted in a substantial increase in peripheral blood hemoglobin and erythrocyte content. At the same time, a lack of tissue adaptation to hypoxia was noted. This was demonstrated by the lack of a spontaneous increase in the level of tissue respiration by Warburg samples of cerebral hemisphere, liver, heart, and skeletal muscle tissue when compared to analagous control samples. Orig. art. has: 1 figure. [CD]

Card 1/1 SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 010/ ATD PRESS: 5012

Shun, D.S.

Effect of salts on the acid denaturation of globulins.
 M. Ya. Shafershtein and D. S. Shun. *Trudy Nauch.-Issledovatel. Inst. Khim. Kharkov. Gosudarst. Univ.* 10, 145-51 (1953); *Referat. Zhur., Khim.* 1954, No. 35997. —The effect of salts on the acid denaturation of horse pseudoglobulin (I) has been investigated. The degree of the denaturation was detd. by measuring the decrease of the resistance of I against salt denaturation. The amt. of the denatured I and the relative viscosity of the acid I solns. have been detd. Denatured I was pptd. by the addn. of an equal vol. of 50% satd. $(\text{NH}_4)_2\text{SO}_4$. Native I, remaining in the soln., was then pptd. by CCl_3COOH and detd. by the biuret method. To 1% solns. in 0.01N HCl, pH 2.4-2.5, were added a chloride, sulfate, benzenesulfonate, 2-naphthalenesulfonate, sulfosalicylate, and trichloroacetate in concns. of 0.0016-0.15M. The relative viscosity of the I solns., maximal at pH 2.4-2.5, decreases with increasing acidity accompanied by an increase of the amt. of the denatured I. SO_4^{--} ions decrease the viscosity at relatively lower concn. than in the case of Cl^- . The viscosity is decreased still more when the org. anions are used. The addn. of any salt increases the degree of the I denaturation. Glucose soln. (20%) partially decreases the acid denaturation of I, probably due to the formation of new linkages between the side chains of the protein mol.
 B. Wierbicki

①

Shun, D. S.

✓ Acid denaturation of pseudoglobulins. II. The effect of sugars and of polyatomic alcohols on the acid denaturation of pseudoglobulins. D. S. Shun. *Uchenye Zapiski Kharkov. Univ.* 50, *Trudy Nauch.-Issledovatel. Inst. Khim. i Khim. Fakul'teta* 11, 83-8 (1954); *Referat. Zhur. Khim., Biol. Khim.* 1955, No. 6813; cf. *C.A.* 49, 13330a.—Glucose (I), sucrose, glycerol, and mannitol exert a protective effect on horse serum pseudoglobulin subjected to the denaturizing effect of 0.01N HCl at pH 2.5 for 24 hrs. at room temp. The protective effect differed with the substances and concn. I was the most effective for 24 hrs. In the presence of I the osmotic pressure of native protein was approximated. I added to a soln. of native protein did not affect its $(\text{NH}_4)_2\text{SO}_4$ precipitability. B. S. Levine

SHUN, D.S

Cathodic polarization changes during the electrodeposition of metals in the presence of surface-active substances.
D. N. Gritsan and D. S. Shun (A. M. Gor'kii State Univ., Kharkov). *Dopovid Akad. Nauk Ukr. R.S.R.* 1955, 92-5; cf. C.A. 49, 10100g. Periodic cathodic polarizations were observed during the electrodeposition of Cd and Cu, and they differed for the 2 metals. It is assumed that these variations are due to periodic adsorption and desorption of the surface-active substances. The necessity of evaluation of the potential of the zero charge of the metal was demonstrated.
W. M. Sternberg

Khark'kov State Univ in A.M. Gorkiy

SHUN, D.S.

Chem ✓ *Periodic Phenomena During the Electrodeposition of Cadmium in the Presence of Alcohols. D. N. Gritsan, D. S. Shun, and B. M. Bulgakov (Zhur. Fiz. Khim., 1955, 29, (6), 953-958).—[In Russian]. During the electrodeposition of Cd from CdSO_4 soln. contg. isoamyl and hexyl alcohol at a particular c.d. depending on the concentration of the electrolyte, spontaneous periodic changes of the cathode potential, c.d., and the character of the deposit are observed. At a cathode potential $\phi_1 \approx 0.42$ V. bright deposits are produced. At $\phi_2 \approx 0.68$ V. a dark, porous film is deposited. This deposition is intermittent. Increase in concentration of isoamyl alcohol to saturation causes irregularity of periodicity. Agitation of the soln. causes disappearance of these periodic phenomena, which re-appear ~ 30 sec. after agitation is stopped. This points to the diffusion-type character of the process. The phenomena are explained by the influence of colloids on the retardation of electrode polarization. Max. adsorption is exhibited only in the region of null-charge potential. 0 ref.—A. W.

3

A.M. Gor'kii State Univ., Khar'kov

GRITSAL, D.V.; SHUN, D.S.; POLGAKOV, B.I.; BULGAKOVA, M.M.

Oscillographic investigation of cathodic polarization in connection
with electrodeposition of metals at high current densities. Uch.zap.
KHGU 71:69-75 '56. (MIRA 10:8)

(Electroplating) (Polarization (Electricity))

GRITSAN, D.N.; SHUN, D.S.

Periodic variation of cathodic polarization on electrodeposition of lead in the presence of surface-active substances. Dokl. AN SSSR 106 no.6:1035-1038 F '56. (MLRA 9:7)

1. Khar'kovskiy gosudarstvennyy universitet imeni A.M. Ger'kego.
Predstavleno akademikom A.N. Frumkinym.
(Polarization (Electricity))(Lead plating)(Surface-active agents)

SHUN, D. Sh.

21-17
Dense lead deposit. D. N. Gritsen and D. Sh. Shun.
U.S.S.R. 100,223, July 25, 1957. Dense Pb deposits are
obtained electrolytically from Pb nitrate soln. in the pres-
ence of the wetting agent DB. M. Hosh

Shun, D. S.

Distr: 4E4j

Periodic phenomena in the electrodeposition of metals.
IV: Action of anions on the periodic phenomena in the elec-
trodeposition of cadmium in the presence of surface-active
substances. / D. N. Gritsag and D. S. Shun (A. M. Gor'ku
State Univ., Kharkov). *Ukrain. Khim. Zhur.* 23, 437-42
(1957) (in Russian); cf. C.A. 49, 15569h. — At c.d. 5.5 ma./
sq. cm. there is a periodic change in the cathode potential of a
1.1N CdSO₄ soln. contg. 1.2% iso-AmOH. The following:
concns. (mmoles/l.) of halide will stop the periodic changes
Cl 3, Br 5, I 40. If 1.5N Na₂SO₄ is present the periodic
changes occur at 3 ma./sq. cm. but not at 5.5. Such
changes are observed for Cd(NO₃)₂ solns., but not for solns.
of Cd acetate or halide. It is proposed that the firmly ad-
sorbed anions displace the alc. and stop its periodic adsorp-
tion and desorption.

John Howe Scott

PM

RS

1/1

SOV/137-58-12-24296

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 52 (USSR)

AUTHORS: Gritsan, D N., Shun, D.S.

TITLE: Cyclic Phenomena in the Electrodeposition of Metals. III. Cyclic Changes in Cathode Polarization in the Plating of Cadmium in the Presence of Hydroxyl-containing Surface-active Substances (Periodicheskiye yavleniya pri elektroosazhdenii metallov. III. Periodicheskiye izmeneniya katodnoy polyarizatsii pri elektroosazhdenii kadmiya v prisutstviy gidroksilsoderzhashchikh poverkhnostnoaktivnykh veshchestv)

PERIODICAL: Uch. zap. Khar'kovsk. un-t, 1957, Vol 82, Tr. Khim. fak. i N.-i. in-ta khimii, Vol 16, pp 77-86

ABSTRACT: A study is made of the influence of the aliphatic alcohols, the phenols, and the aliphatic carboxyl acids upon cyclic phenomena (CP) in Cd plating. It is found that as the hydrocarbon chain lengthens the influence of monoatomic alcohols on the periodicity rises. There is a rise in the cycle of fluctuations and a reduction in the minimum concentration of alcohol needed for CP to develop. In the presence of phenols the same CP are observed as in the presence of alcohols.

Card 1/2

SOV/137-58-12-24296

Cyclic Phenomena in the Electrodeposition of Metals. III. Cyclic Changes (cont.)

CP are not found in the presence of multiatomic alcohols, i.e., ethyleneglycol, glycerol, and mannitol - and in the dicarboxylic acids of the aliphatic series.

N. P.

Card 2/2

GRITSAN, D.N. [Hrytsan, D.N.]; SHUN, D.S.

Role of wetting in the electrodeposition of metals. Dop.AN
URSR no.1:64-68 '60. (MIRA 13:6)

1. Nauchno-issledovatel'skiy institut khimii Khar'kovskogo
gosudarstvennogo universiteta. Predstavleno akademikom AN
USSR Yu.K.Delimar'skim [IU.K.Delimars'kym].
(Wetting agents) (Electroplating)

GRITSAN, D.N.; SHUN, D.S.; SERPUKHOVA, L.N.

Electrolytic deposition of dense lead precipitates from aqueous solutions of nitrate. Zhur.prikl.khim. 34 no.7:1528-1532 J1 '61.
(MIRA 14:7)

1. Institut khimii Khar'kovskogo gosudarstvennogo universiteta.
(Lead—Plating) (Lead nitrate)

S/153/62/005/005/003/011

E021/E475

AUTHOR: Geltsan, D.N., Shun, D.S.

TITLE: The influence of hydrophilic adsorbed layers on the electrodeposition of metals

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, v.5, no.5, 1962, 775-781.

TEXT: The influence of surface active substances on the electrodeposition of metals was investigated and the main requirements for obtaining compact deposits were formulated. The main experiments were carried out on the electrodeposition of lead from its nitrate and acetate salts; some additional experiments were also made with platinum and gold. Additions of various surface active agents were made to the electrolytes and the quality of resulting deposits noted. In addition, in order to confirm that an improvement in the quality of deposits was related to the formation of hydrophilic adsorbed layers of the surface-active substance on the surface of the metal, the influence of these substances on the wettability of some metals with water and aqueous solutions was investigated by measuring the angle of wetting. The method of displacement of air with water and vice versa was

Card 1/2

The influence of hydrophilic ...

S/153/62/005/005/003/011
EO21/E475

used for the purpose. It was found that high wetting and washing ability, high-surface activity, good solubility in water, chemical stability to electric currents and acids of the organic additives improve the structure of the electrodeposited metals. Particularly good lead deposits were obtained from lead acetate and nitrate solutions to which wetting agents MB(DB) and ME(NB) (3 to 5 g/l) were added. There are 3 figures and 2 tables. ✓

ASSOCIATION: Katedra fizicheskoy i kolloidnoy khimii
(Department of Physical and Colloidal Chemistry)
Dnepropetrovskiy khimiko- tekhnologicheskii institut
imeni F.E.Dzerzhinskogo
(Dnepropetrovsk Chemical Technological Institute
imeni F.E.Dzerzhinskiy)
SUBMITTED: April 8, 1961

Card 2/2

GRITSAN, D. N.; SHUN, D. S.

Effect of wetting adsorption layers on the electrodeposition
of metals. Izv. vys. ucheb. zav.; khim. i khim. tekhn. 5 no.5:
775-781 '62. (MIRA 16:1)

1. Khar'kovskiy gosudarstvennyy universitet imeni A. M. Gor'kogo,
kafedra fizicheskoy i kolloidnoy khimii.

(Electroplating) (Surface-active agents)

SHUN, M. S.

22317 Shun, M. S. Ob odnom obobshchenii polinomov lezhandra. uchen. zapiski khar'k Gos. Un-ta im. Gor'kogo, T. XXIX, Zapiski Nauch.-issled. in-ta matematiki i mekhaniki i khar'k matem. o-va, Seriya 4, T. XXI, 1949, S. 165-68

SO: LETOPIS' No. 30, 1949

L 26660-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/T-2/EWP(k)/EWA(h)/ETC(m)-6 EM
 ACC NR: AP6006434 SOURCE CODE: UR/0420/65/000/003/0036/0040

AUTHORS: Shun, M. S.; Meshcheryakov, S. F.

ORG: none

TITLE: On the edge effect in a finite tube under pressure

SOURCE: ²⁶Samoletostroyeniye i tekhnika vozdushnogo flota, no. 3, 1965, 36-40

TOPIC TAGS: stress analysis, pressure effect

ABSTRACT: The solution for infinite tubes by Lyame (e.g., A. Lyav, Matematicheskaya teoriya uprugosti. ONTI NKTP SSSR, 1935) is generalized to finite length tubes with edge effects and under arbitrary axial loads. Consider the finite cylinder

$$(r_1 \leq r \leq r_2, -h \leq z \leq +h)$$

acted upon by forces on its surface as

$$P(r_i; z) = f_i(z) \quad (i = 1, 2),$$

where $f_i(-z) = f_i(z)$, $\tau_{rz} = 0$ at $r = r_{1,2}$. The governing displacement equations in two dimensions are solved to yield the following formulae for the normal and

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L 26660-66

ACC NR: AP6006434

tangential stresses:

$$\left. \begin{aligned} \sigma_r(r, z) &= \sum \sigma_k(r) \cos qz \\ \tau(r, z) &= \sum \tau_k(r) \sin qz \end{aligned} \right\}$$

$$\sigma_k(r) = 2\mu q Z_0(qr) - \frac{2\mu}{r} [Z_1(qr) + \bar{Z}_1(qr)] -$$

$$- \frac{\mu(\lambda + \mu)}{\lambda + 2\mu} q^2 r \bar{Z}_1(qr) + \frac{\mu(2\lambda + 3\mu)}{\lambda + 2\mu} q \bar{Z}_0(qr).$$

$$\tau_k(r) = \frac{\lambda + \mu}{\lambda + 2\mu} q^2 r \bar{Z}_0(qr) - q \bar{Z}_1(qr) - 2q \bar{Z}_1(qr).$$

Several special cases are considered, including the case where $f_s(z) = -p_s$ ($s = 1, 2$), the solid cylinder ($r_1 = 0$, $p_2 = p$), the thin tube, the slab with a circular hole, and the case of a ring

$$r_{1,2} = 0(1), h \sim 0 (r_2 - r_1 = 0(1)).$$

Orig. art. has: 23 equations and 1 figure.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001

Card 2/2 BLG

KLIMOV, V.I.; RABOTIN, A.N., inzhener; SHUNAYEV, B.K., kandidat tekhnicheskikh nauk, retsenzent.

[Machining of gears] Obrabotka zubchatykh koles. Pod red. A.N.Rabotina. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1953. 63 p. (Nauchno-populiarnaya biblioteka rabocheho stanochnika, no. 15) (MLRA 7:8)
(Gearing)

PETUKHOV, P.Z., doktor tekhnicheskikh nauk, redaktor; MIKHAYLOV, G.P., doktor tekhnicheskikh nauk, redaktor; SOKOLOV, K.N., kandidat tekhnicheskikh nauk, redaktor; SHUNAYEV, B.K., kandidat tekhnicheskikh nauk, redaktor; GANAGO, O.A., kandidat tekhnicheskikh nauk, redaktor; KAZAK, S.A., kandidat tekhnicheskikh nauk, redaktor; BORETSKIY, A.A., dotsent, kandidat tekhnicheskikh nauk, redaktor; STUDNITSYN, B.P., vedushchiy redaktor; DUGINA, N.A., tekhnicheskiiy redaktor.

[Examples of automatization and mechanization of production]
Primery avtomatizatsii i mekhanizatsii proizvodstva. Moskva,
Gos.nauchno-tekhn.izd-vo mashino-stroitel'stva, 1955. 285 p.
(Iz opyta Ural'skikh i Sibirskikh zavodov, no.1). (MIRA 9:6)
(Automation) (Machinery industry)

SHUNAYEV, B.K.
SHUNAYEV, B.K., kand.tekhn.nauk

Machining spur gear wheels by means of continuous axial feed of
gear cutters. Mashinostroitel' no.10:20-22 O '57 (MIRA 10:11)
(Gear cutting)

25(7)

PHASE I BOOK EXPLOITATION

SOV/1794

: Shunayev, Boris Konstantinovich

Zubofrezerovaniye metodom dvukh podach (Gear Hobbing by Two-feed Method) Moscow, Mashgiz, 1958. 48 p. (Series: Obmen tekhnicheskimi opytom) Errata slip inserted. 5,000 copies printed.

Reviewer: P.T. Vagin, Engineer; Ed.: V.V. Kuvshinskiy, Candidate of Technical Sciences; Executive Ed. (Ural-Siberian Division, Mashgiz): L.A. Kon'shina, Engineer; Tech. Ed.: N.A. Dugina.

PURPOSE: The book is intended for engineering personnel and foremen.

COVERAGE: The book describes a method of gear hobbing where the hob has an additional feed in the direction of its longitudinal axis, so that all the teeth of the hob will have an equal part in cutting. The consequent uniformity in wear extends the hob's life. This method, called the "two-feed method" was developed and tested in the laboratory of the Ural'skiy politechnicheskiy institut imeni S.M. Kirova (Urals Polytechnical Institute imeni S.M. Kirov) and is now in use in plants. The essentials of this method and its effectiveness are explained. Problems of application of this method on

Card 1/3

Gear Hobbing (Cont.)

SOV/1794

models 532, 5A326, 5326 hobbing machines are examined, as well as the setting of these machines. The construction of universal milling unit heads is described. No personalities are mentioned. There are 11 Soviet references.

TABLE OF CONTENTS:

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Example of setting the machine	31

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BOYARSKIY, Lazar' Tadrisevich; KORSHIKOV, Nikolay Petrovich; LIBERMAN, B.S., inzh., retsenzent; YEGOROV, I.S., inzh., retsenzent; SHUMAYEV, B.K., kand.tekhn.nauk, retsenzent; LOSKUTOV, V.V., kand.tekhn.nauk, retsenzent; SHARIN, Yu.S., kand.tekhn.nauk, red.; DUGINA, N.A., tekhn.red.; EL'KIND, V.D., tekhn.red.

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25-27 Ja '59. (MIRA 12:1)
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shesteren. Izd.4., dop. Moskva, Gos.nauchno-tekhn.izd-vo
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(Gearing--Tables, calculations, etc.)

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S/121/61/000/003/002/006
D040/D112

11100

AUTHOR: Shunayev, B. K.

TITLE: Gear hobbing by the dual-feed method

PERIODICAL: Stanki i instrument, no. 3, 1961, 6-13

TEXT: Information on this dual-feed gear-hobbing method has been published previously (Ref.1: Shunayev, B.K., Zubosfrezerovaniye metodom dvukh podach [Gear hobbing by the dual-feed method], Mashgiz, 1958). This article presents information on the theory of the method and results of experiments with special saddles, developed for the new method, for new and old gear cutting machines. The essence of the dual-feed method (Fig.1) consists in simultaneous feed along the blank axis (arrow S_g) and along the hob axis (arrow S_c). All the cutting edges participate in the cutting process, so that the hob and the blank may be regarded as an involute worm interacting with a helical gear. The machined edges (Fig.9, left) are helical. The hob blunts much more slowly, particularly when a longer hob is used (up to 10.5 times longer than in usual hobbing) and a 20% higher feed rate is pos-

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Gear hobbing by the dual-feed method

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sible, which results in considerable saving. The accuracy and surface finish of gears hobbled by the new method are not below the usual, and higher smoothness is possible if the geometry of the hob teeth is precise and wobbling in the cutting process eliminated by precision fixtures. The new saddles, developed at the Ural'skiy politekhnicheskiy institut.-UPI (Ural Polytechnic Institute) are all universal and include a differential screw. They permit hobbing spur, helical and worm gears. The axial feed is adjustable over a wide range, starting with fractions of one micron. Over 1500 gears have been hobbled by the dual-feed method at the UPI laboratory and at the Sverdlovskiy mashinostroitel'nyy zavod (Sverdlovsk Machine Construction Plant). Three diagrams and two photographs show several saddles. A special electro-mechanical control system with a displacement programmer for the new saddles was previously described (Ref.4: Shunayev, B.K., Shalin, G.M., Avtomatizatsiya osevykh peremeshcheniy chervyachnoy frezy na zubofrezernykh stankakh [Automation of axial hob displacements in gear cutters], "Mekhanizatsiya i avtomatizatsiya mashinostroitel'nogo proizvodstva", Mashgiz, 1959). The following gear cutters are mentioned in connection with the use of the new hobbing method: The German Pfauter (FRG) P-500 and P-900 cutters; machines of the "Modul" Plant in East Germany: the new

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Rounding method for broaching gear wheels. Trudy Ural. politekh.
inst. no.129:53-66 '63 (MIRA 17:8)

SHUNAYEV, B.K.; PERLOV, Ye.F.; SAVEL'YEVA, I.M.

Rounding method for broaching gear wheels. Trudy Ural. politekh.
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Precast reinforced concrete elements for bunker scaffolds of
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SO: Vechernaya Moskva January-December 1952

ACC NR: AP7000976

SOURCE CODE: UR/0209/66/000/012/0050/0053

AUTHOR: Shuneyko, V. (Senior lieutenant)

ORG: none

TITLE: A device for interpreting aerial-photograph negatives

SOURCE: Aviatsiya i kosmonavtika, no. 12, 1966, 50-53

TOPIC TAGS: aerial photograph, photographic processing, photographic equipment

ABSTRACT: A new design for a light device to be used when working with aerial-photograph negatives has been proposed. With this device it would be possible to

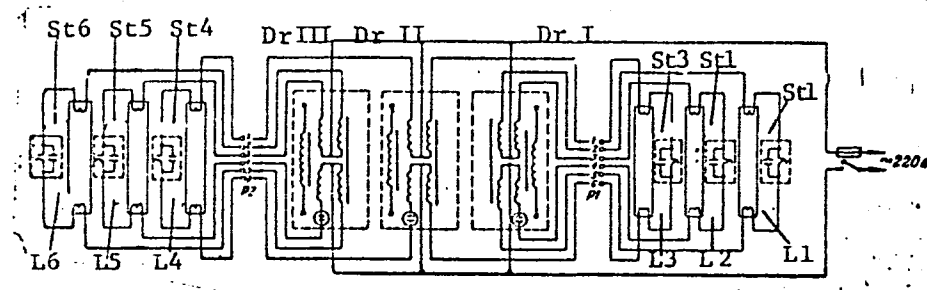


Fig. 1. Circuit diagram for the light device

L1, L2 - Luminescent lamps; St1—St6 - starters; DrI—DrIII - chokes; P₁ - P₂ - connectors.

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ACC NR: AP7000976

interpret either dry or wet 19- and 32-cm-wide film. The electrical circuit (see Fig. 1) is designed for either 127- or 220-v a-c power, and the 220-v luminescent lamps are operated through a step-up transformer. Orig. art. has: 2 figures.

[WS]

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